AFCCC Strategic Weather Now
Air Force Combat Climatology Center
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HOT SPOTS REVIEW

The AFCCC Strategic Weather Now newsletter premiered in January. As it has gained in circulation, many of our customers are only now discovering it. This month's newsletter is a showcase of the Hot Spots that we have done over the last few months. To see a particular article, just click on the picture and a link will take you to that month's newsletter (Figure 1).

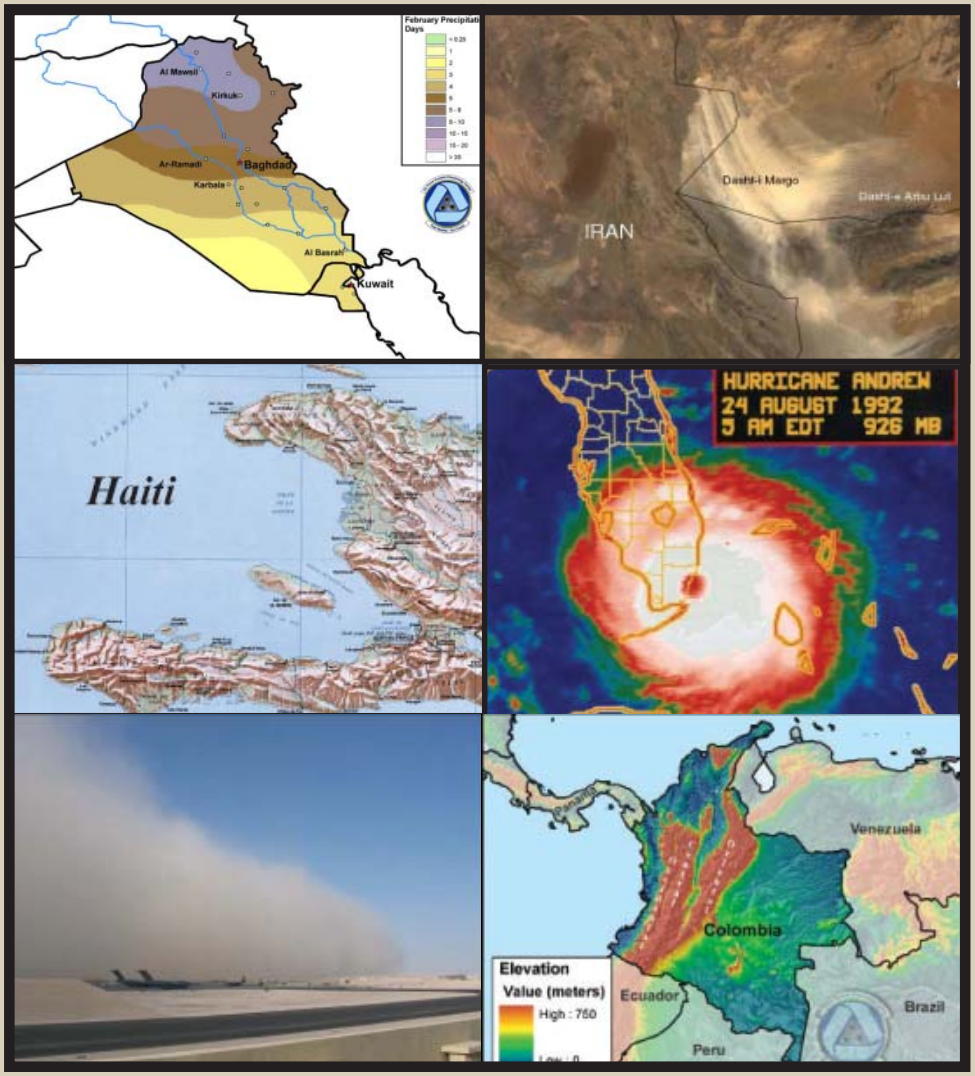

Figure 1. Capture Images. Click on an image to link to its archived newsletter.

Contact AFCCC Current Operations to get products focused on your area of operations. Email us at the following address: doo@afccc.af.mil or fdo@asheville.af.smil.mil.

Branch Spotlight

Database Administration

For the past several years, AFCCC has dealt with the challenge of using obsolete hardware architecture to fulfill the growing climatology data needs of our customers. Part of the problem is the result of declining program budgets, therefore, the computer infrastructure becomes antiquated and costly to maintain. Although these are the realities and challenges behind every IT division, great ideas and technological solutions can emerge, especially when fired by a country at war. With the tempo high and mission needs pushing at the forefront, it was crystal clear that the SC Division must move out and reengineer a scalable computer architecture to meet the requirements, thus a phased approach to refreshing the AFCCC architecture was born.

During a lengthy computer systems engineering study, we found that technological advancements in the home computer market blur the line between commercial and non-commercial computer choices. Competing multiple vendors provide improvements in PC-based technology that rival or surpass the capabilities of past architectures that cost far more.

AFCCC's computer processing/storage capabilities are at the maximum with no room to grow. Our mission would be at risk if a catastrophic failure occurred. We finally had to choose between shoring up our end-of-life systems with more upgrades or taking the leap to new technologies. AFCCC's modeling and simulation branch were testing an alternative solution, a PC-based Linux server array. We loaded Oracle, some sample tables, and load scripts on their platform. Performance differences were compared between their PC/Linux rack-mounted system and our fastest optimized server to access and upload six hours of data from two Worldwide Merged Cloud tables. The results were impressive: a 15-fold speed increase for simulated data loads.

With smaller specialized companies collaborating to combine their latest technological developments; cheaper, faster alternatives to the commercial market were emerging. The Data Administrative Branch contacted these vendors and proposed to take the concept a step farther in combining their architecture with a fast data storage array network and a new Beta version of Oracle. If it worked, it could be the next big paradigm shift in the computer server industry, offering a real alternative to Fortune 500 companies throughout industry. Whispers began to spread in the industry about this small unit called AFCCC. The partners involved stand to benefit from this new collaboration and they are cooperating with AFCCC in making it happen. With the equipment in place and configured (see Figure 2), we have taken the first step in meeting our projected mission capabilities and the realization of a long-sought solution to our growing needs.

Figure 2.

For more information, contact Ms. Junay Hickey at DSN 6739008 or commercial (828) 271-4213. Her e-mail address is junay.hickey@afccc.af.mil

Olympics Support

August in Athens, Greece

Figure 3. Greece.

General Weather. The Azores high is at peak strength. Clear skies, dry air, and warm temperatures are typical. Isolated rainshowers occur over the mountains, but little precipitation reaches Athens (see Figure 3). August is a hot, dry month.

Sky Cover. The sky is mostly clear. Ceilings below 10,000 feet occur 5 percent of the time or less. Ceilings below 3,000 feet are not reported.

Visibility. Fog occurs just 2-3 mornings. Fog quickly dissipates when the sun rises, but haze and air pollution restrict visibility. Visibility below 7 miles (11,000 meters) occurs 50-60 percent of the time most of the day and a minimum of 25-30 percent of the time at 11-16L. Visibility below 3 miles (4,800 meters) is not reported.

Wind. Cool, dry etesian winds blow out of the north. They clash with westerly sea breeze winds from the bay. The mean winds at Athens are from the north at 9 knots with a peak gust of 46 knots. Calms occur 14 percent of the time.

Precipitation. Rain falls 2 days per month in August. Thunderstorms occur 1 day. The mean rainfall is 0.3 inch (8 mm), typically from very light rainshowers. The extreme rainfall was 2.9 inches (74 mm). The maximum 24-hour rainfall was 1.4-1.5 inch (36 mm).

Temperature. The mean high is 89F (32C) in August. The extreme high was 110F (43C). The mean low is 73F (23C). The extreme low was 63F (17C). On average, there are 15 days with temperatures above 90F (32C). Average relative humidity is 55-65 percent. Contact Ms. Higdon at DSN 673-9001/COM (828) 271-4218 or email at melody.higdon@afccc.af.mil.

Ops Impacts

Contingency Support. Our Tailored Climatology Products team (DOPT) recently supported the 1st Marine Expeditionary Force (1MEF) in Iraq with weather data used to compare conditions experienced March through July 2004 with long term climatological averages. Statistics were generated that compared the number of days per month that had occurrences of sand, dust, or a sandstorm. Analysts also computed daily high and mean temperatures so they could be compared to long term averages. The information provided to the customer allowed them to quickly respond to a request for information from the 1 MEF Commanding General. AFCCC was able to verify that the sand and dust storms were indeed a normal phenomenom for that area of Iraq in the March through July timeframe.

Operation Enduring Freedom Support. AFCCC provided peak wind data for Jacobabad, Pakistan. The wind data was tied to thunderstorm and dust storm events. It allowed forecasters to issue more accurate wind warnings in direct support to two aircraft and approximately 400 American personnel in a deployed location, which had proven challengeing in the past. The data AFCCC provided helped the forecasters establish guidelines for future wind warnings.

Precision Airdrop System (PADS) Climatologies. Tailored climatologies were designed by AFCCC for PADS operational training and testing. These climatologies will permit continued high-altitude airdrop operations under limited weather data scenarios such as those that could be encountered during combat/ contingency missions. Improved accuracy results in increased time to recover payloads.

Climo Tidbits

Pakistan. There are two basic climate zones: Indus River Basin in eastern Pakistan and the mountains of the west. It is a semiarid country, which is only partly affected by the southwest monsoon.

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Library Corner

The Air Force Weather Technical Library (AFWTL) has one of the largest collections of weather technical material in the world. It adds new material to the collection continually, and quickly brings the latest advances in meteorology to the military weather community. Also continually updated is the collection of computer resource materials. AFCCC is a highly computerized organization and our "techies" are vital to keeping AFCCC up to the challenges our customers present us. The technical materials the library gathers and houses are an important part of learning or updating skills that help AFCCC serve you. You too are welcome to make use of our materials. Go to our link on the AFCCC home page, peruse our catalogs, and explore the possibilities that wait for you. Contact John Gray at DSN 673-9019/COM (828) 271-4320 or email john.gray@afccc.af.mil.

NAVY NOTES

Do you ever find yourself in need of a standard upper air chart from the past? If so, then access "Fleet Historical Fields" web application. This produces graphic displays of the Navy Operational Global Atmospheric Prediction System (NOGAPS) model analyses. Data is available from 1997- to yesterday at 00 and 12 UTC for the surface and 17 pressure levels. Parameters available include height, winds, temperature, humidity and freezing level, as well as low, middle, high and total cloud cover values. In addition to NOGAPS, we also have Wave Watch 3 (WW3) oceanographic model analyses available for significant wave height, direction, and period as well as winds for the same period of record. Check out the Fleet Historical Fields application for NOGAPS and WW3 on our public web site at http://navy.ncdc.noaa.gov/gradsmap/indexcustomfhf.html. Remember, if you have to deploy, know what to expect before you get there! Make us your first stop for all your marine climatology needs.

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